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ABSTRACT

The purpose of the study was to provide an ecological-demographic analysis of a suburban elementary school attendance area by examining the sociocultural elements within the spatially delimited boundaries. The area, though beyond the limits of the incorporated city, was part of the urban school district which transcended the political boundaries of the city to include its non-incorporated suburban areas. The framework of the study was built upon the four fundamental elements of human ecology: population, technology, environment, and organization. Residents were surveyed to determine age, mobility, and career stability. Local business men, land developers, and county planning officers, were interviewed; land use patterns within the area were analyzed. The study established that there was no definable neighborhood: the attendance area was an artificial construct used to delimit the elementary school population. The research methodology provided information from which school administrators and district policy makers could estimate growth patterns, financial support for educational programs within the area, and the effect that these factors could have upon school programs. (MB)

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HUMAN ECOLOGY: A MEANS OF ENVIRONMENTAL AND DEMOGRAPHIC ANALYSIS IN EDUCATIONAL RESEARCH

by

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Within educational boundaries, it would appear that American educators have few systematic methods with which to analyze environmental and population changes that have either direct or indirect influences upon public education. The objective of this study was to provide an ecological-demographic means of analysis for a suburban elementary school attendance area by systematically organizing socio-cultural elements within the spatially delimited context of that area. The study essentially employed the precepts of human ecology as a means of examining an environment. It was not primarily concerned with the school itself, but rather, through the functional framework of human ecology, worked toward formulating an heuristic methodological structure. The problem was to assume that the elementary school under study was an organism functioning within the prescribed environment of its attendance area. As discrete components of that environment, socio-cultural phenomena had to be isolated and analyzed in order to understand

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their nature and levels of interaction as functional units with the organism of the school. The elementary attendance area in this study, although beyond the limits of the incorporated city, was part of the urban school district which transcended the political boundaries of the city to include its non-incorporated suburban areas.

The framework for the study was built upon the four fundamental elements of human ecology -- population, technology, environment and organization. Population demographically treated the inhabitants of a spatially delimited area while technology related the population aggregate to its sustenance-producing activities, i.e., occupation. Environment provided a longitudinal dimension, from past to present, for studying land uses and settlement patterns as they related to population and technology. This component was particularly necessary for determining sampling procedures related to the administration of an interview schedule because of the populations related to the different eras of settlement. Organization portrayed the interrelationships of population, technology and environment and was the critical factor in predicting ecological-demographic changes within the attendance area, specifically those relating socio-economic groups with residential areas.

A map was employed in the study to visually present and organize primary and secondary data within the area. Mapping provided a graphic means for systematically organizing and relating cultural data into comprehensive spatial patterns. When such patterns had been established, the interactions of cultural elements were more easily seen and understood.

Primary sources of data included a sustained field study which was conducted in order to identify land use patterns and sub-ecological units within the attendance area. Resulting from the initial phase of the field study, a ten percent stratified sampling of the residential sub-units was conducted. This involved a total of 127 household interviews. The interview schedule consisted of fifty-two questions--fixed alternative, open-ended and attitudinal scales. Secondary data sources consisted of school district records, city directories and information from county planning offices and county records. In the private sector, secondary data were gathered from land developers, contractors, realtors, retail store owners and/or operators and the owners and/or managers of residential rental properties. These secondary data sources were used to validate and cross-check the data gathered from the field study.

The results of the study indicated that, in form and function, this suburban area was becoming consolidated with the adjacent urban complex, although it was not politically incorporated into the city. Morphologically, the single-family dwelling, which was the overwhelming source of elementary and pre-school age children, had reached the limits of its growth. The area was becoming increasingly commercialized with the expansion of apartment complexes and commercial interests. Demographically, it was established that the majority of the sampled population migrated from non-local, rural-agrarian areas and were of lower middle class background. Within this dominant socio-economic group, there were two major age groups. The first and older group (41-55) tended to feel a permanent identification with the area and would probably change a career before changing spatial location. They had put their children through the public schools and no longer felt compelled to financially support the schools through annual school bond elections. The younger group (30 and under) appears to have taken the public schools for granted and they have had the shortest length of residency in the area coupled with the highest perceived spatial mobility -- being career-bound rather than

place-bound. They also had the greatest number of elementary and pre-school age children and were the least likely to be registered voters or to have provided support for the public schools through voting or through involvement in school programs.

The study established that, in a traditional sense, there was no definable neighborhood within the confines of this attendance area -- a neighborhood being defined as a functionally integrative unit of a socio-cultural nature. In reality, this attendance area was only an artificial construct used to delimit an elementary school population. The study also indicated that educating for local needs and desires was unrealistic in that the population of the attendance area was nationally mobile rather than locally stable.

This type of research methodology is responsive to the following kinds of questions that may be asked by a school principal or by district policy makers.

1. What is the direction of new growth and development within the attendance area/school district and how will it affect school programs?

2. What socio-economic groups reside within the attendance area/school district? What is the spatial mobility of these groups? What is the nature of their support for the public schools?

3. Can school programs be made responsive to ecological and demographic data?

4. What are possible pupil projections for the school/school district?

5. How can school principals/district policy makers elicit public support for the public schools and school programs?

This form of analysis (human ecology) is particularly sensitive to ecological-demographic structure and alterations and, coupled with field observations and an interview schedule, can provide a systematic means of analyzing current change and predicting future changes occurring within educational environments -- attendance areas and school districts. As such, human ecology may be viewed for potential use in educational planning.

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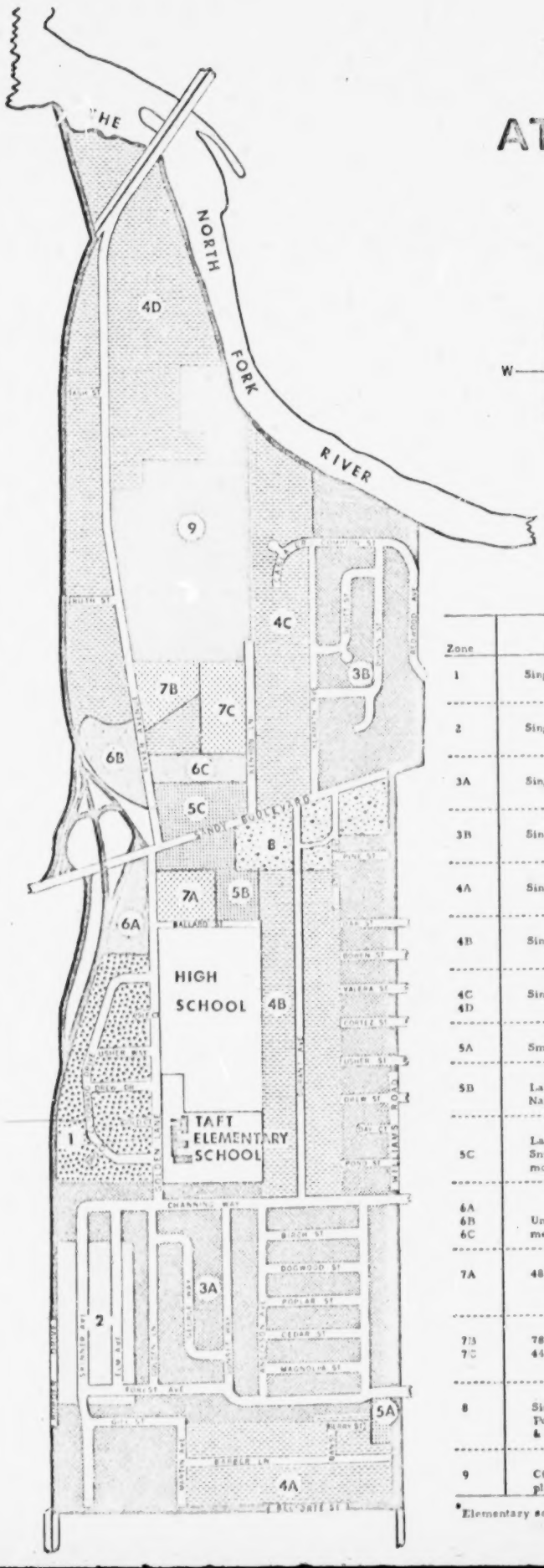
ELEMENTARY SCHOOL ATTENDANCE AREA



N
W E
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scale
0 400' 800'

legend

Zone	Property Type	Dwelling Cost Median	Dwelling Cost Range	Representative Occupations	Number & Percentage of Pupils*
1	Single family homes	$29,730	$21,240-$55,890	Professional & Managerial	6 11.7%
2	Single family homes	$11,990	None	Craftsmen & Laborers	5 9.8%
3A	Single family homes	$15,580	$ 8,970-$25,650	Salesmen & Craftsmen	25 49.0%
3B	Single family homes	$15,970	$13,840-$16,060	Managerial & Salesmen	5 9.8%
4A	Single family homes	$16,140	$11,410-$18,890	Operatives	1 2.0%
4B	Single family homes	$12,470	$ 9,790-$16,210	Salesman	3 5.9%
4C 4D	Single family homes	$10,230	$ 9,550-$11,500	Foremen & Farmers	
5A	Small shopping center				
5B	Large shopping center National chain stores				
5C	Large shopping center Small chain stores - mostly retail				
6A 6B 6C	Undeveloped commercial property				
7A	48 units/rental apts.		$130-$140 per month 1-2 bdrms.	Salesman	3 5.9%
7B 7C	78 units/rental apts. 44 units/rental apts.		$140-$150 per month 1-2 bdrms.	Foremen & Students	
8	Single family rentals Potential commercial & apartments			Laborers	3 5.9%
9	City sewage processing plant				

*Elementary school pupils from 10% sample of attendance area.

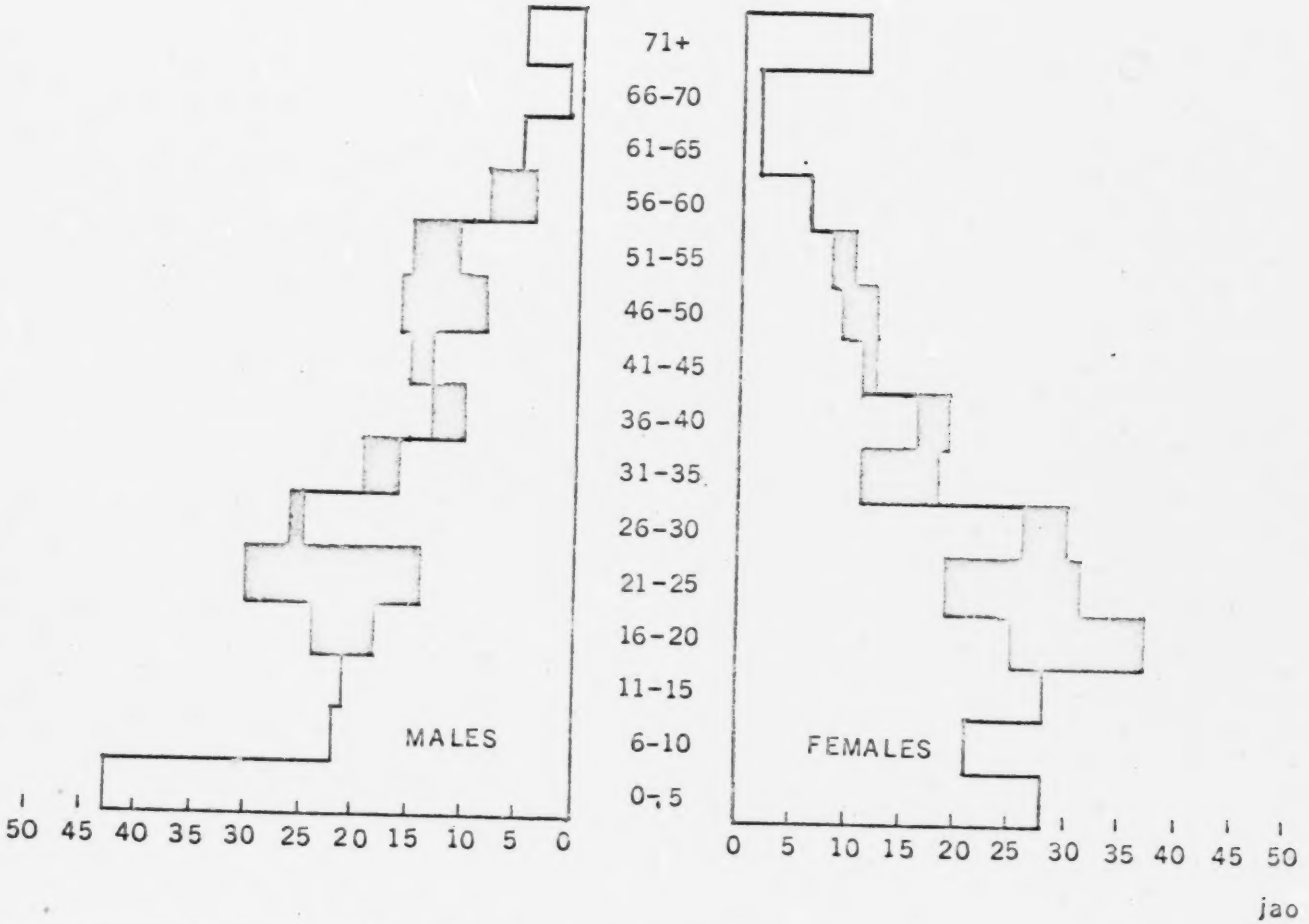

Figure 1. --Population Pyramid.

Figure 2

ORIGIN AND LENGTH OF RESIDENCY

Region of Origin	Length of Residency											
	1900 1909	1910 1919	1920 1929	1930 1939	1940 1945	1946 1950	1951 1955	1956 1960	1961 1965	1966 1968	1969	Total
Total ...	2	1	5	12	17	32	17	27	47	32	45	237
Local	1	1	2	2	2	6						14
Other Oregon			1	3	2	9	6	9	12	10	10	62
Other Pacific			1		1	3	2	1	6	5	11	30
Mt. States						1	1		1	3	1	7
Midwest	1		1	7	11	10	4	13	20	7	9	83
South						1	1		1	3	1	7
Northeast							1	1	3	4	7	16
Canada								1			2	3
France						1						1
Ireland					1							1
Philippines										1		1

Figure 3

BIRTHPLACE BY REGION

Region of Birth	No. of Children	Percentage of Total
Total	301	100.0
Local	105	34.9
Other Oregon	64	21.3
Other Pacific	57	18.9
Mountain States	13	4.3
Midwest	37	12.3
Northeast Region	4	1.3
Canada	5	1.7
Alaska	1	.3
Germany	1	.3
Unknown	2	.7

Figure 4

EDUCATIONAL STABILITY OF OFFSPRING BY AGE AND MOBILITY OF PARENTS

Grade Level	Parental Age Categories															
	Under 30				31 - 40				41 - 55				56 & Over			
	10 Yrs.	5 Yrs.	1 Yr.	0 Yrs.	10 Yrs.	5 Yrs.	1 Yr.	0 Yrs.	10 Yrs.	5 Yrs.	1 Yr.	0 Yrs.	10 Yrs.	5 Yrs.	1 Yr.	0 Yrs.
10-12		.33			.66	.33		1.66	3.99	1.33	1.33		.33			.33
7-9	.33				1.99	.33	1.33	1.00	3.66	1.00	1.33					
1-6	1.99	1.33	3.33	1.00	1.66	.33	1.66	2.66	2.99		1.00					
Pre-S	1.33	2.66	9.97	2.99	1.66	1.99	1.66	.33	1.00		.33					
Total	3.65	4.32	13.30	3.99	5.97	2.98	4.65	5.65	11.64	2.33	3.99		.33			.33